



Missouri Department of Health and Senior Services

P.O. Box 570, Jefferson City, MO 65102-0570 Phone: 573-751-6400 FAX: 573-751-6010

Richard C. Dunn
Director



Bob Holden
Governor

**SEROLOGICAL TESTING FOR WEST NILE VIRUS AND OTHER
ARTHROPOD-BORNE VIRUSES (ARBOVIRUSES)
Updated August 2003**

AVAILABILITY OF VIRAL SEROLOGY TESTS

Rapid identification and reporting of *active* human West Nile virus (WNV) infections provides state and local public health agencies with timely information on the location and prevalence of the virus. For this reason, the State Public Health Laboratory treats all specimens with the same priority.

Serologic testing is advised for the following:

Mild Infection – West Nile fever (20% of infected persons)

- Fever, headache, malaise, myalgia
- Rash, lymphadenopathy
- Nausea, vomiting, anorexia
- Eye pain

Severe Infection – Encephalitis/meningitis (about 1 in 150 infected persons)

- Fever, weakness, gastrointestinal symptoms, change in mental status
- Maculopapular or morbilliform rash on neck, trunk, arms, or legs
- Severe muscle weakness and flaccid paralysis; ataxia and extrapyramidal signs
- Cranial nerve abnormalities, myelitis, optic neuritis, polyradiculitis, seizures

Serologic testing is not necessary for asymptomatic persons.

Because most infected persons are asymptomatic and because IgM antibody may persist for one year or longer, Missouri residents may have persistent IgM antibody from a previous infection that is unrelated to their current clinical illness. Definitive diagnosis often requires analysis of a convalescent serum specimen.

WNV has the same seasonal pattern as enteroviruses, and is also associated with neurologic signs and symptoms of aseptic meningitis. For this reason, diagnostic testing of specimens from patients with aseptic meningitis should include testing for enteroviruses, even during a documented WNV outbreak.

The U. S. Centers for Disease Control and Prevention's publication *West Nile Virus (WNV) Infection: Information for Clinicians* (August, 2002), which outlines clinical features, diagnosis, reporting, laboratory testing, and treatment of West Nile virus infection, is available at:

http://www.cdc.gov/ncidod/dvbid/westnile/resources/fact_sheet_clinician_082102_0802.pdf.

There is no charge for arboviral testing through the State Public Health Laboratory.

STATE PUBLIC HEALTH LABORATORY ARBOVIRAL SEROLOGY TESTS

- IgM antibody detection on single serum or acute CSF
- IgG antibody detection on paired sera

Arboviral testing will be conducted on specimens to detect antigens of:

- Flavivirus Group
 - West Nile virus (WNV)
 - St. Louis encephalitis (SLE) virus
- Western equine encephalitis (WEE) virus
- LaCrosse/California (LAC) encephalitis virus
- Eastern equine encephalitis (EEE) virus

- For IgM arbovirus antibody panel, collect acute serum 0 to 10 days after onset of symptoms.
- Collect CSF as soon as possible after onset of symptoms.
- For IgG arbovirus antibody panel, collect acute serum 0 to 10 days after onset of symptoms and collect convalescent serum 2-3 weeks after acute serum was collected.
- Collect serum in a red-top vacutainer tube. It is best to send only serum and not whole blood.
- Whole blood may be sent if no method is available for removing the serum.
- At least 0.5 ml of serum and 1.0 ml of CSF is required for testing.

A completed Missouri Department of Health and Senior Services Lab Form MO580-0762 (12-99) (Viral Serology Test Request) (http://www.dhss.state.mo.us/Lab/arbovirus_fax_form.pdf) must accompany all specimens.

- Patient's name on submission form and specimen.
- Date of onset of symptoms.
- Specimen collection date.
- Pertinent travel history (three months prior to onset of symptoms).

Additional details on specimen collection, shipping, and test result interpretation are posted at: http://www.dhss.state.mo.us/Lab/west_nile_virus.htm.

VIRAL SEROLOGY TEST REQUEST		Must fill in Acute OR Convalescent date + onset	
1. Please provide the patient information requested. 2. Type or print with pressure. 3. Send all copies of this form with specimen to STATE PUBLIC HEALTH LABORATORY.		DATE SPECIMEN COLLECTED ACUTE 01-01-03 OR CONV 01-22-03 ONSET 01-01-03	
PATIENT NAME (LAST, FIRST) Doe, Jane		DATE RECEIVED ACUTE CONV DATE CONV. REQ'D	
ADDRESS (CITY, STATE, ZIP CODE) 123 Main St. Anytown, MO 65000		RUBEOLOA/RUBELLA VACCINATION HISTORY 	
BIRTHDATE 01-01-80 SEX <input checked="" type="checkbox"/> Female <input type="checkbox"/> Male RACE <input type="checkbox"/> W <input type="checkbox"/> B <input type="checkbox"/> A/P <input type="checkbox"/> A/I <input checked="" type="checkbox"/> O		FOR STATE HEALTH LAB USE ONLY DATE REPORTED LABORATORY REPORT RUBEOLOA EIA (IgM): <input type="checkbox"/> Positive <input type="checkbox"/> Negative <input type="checkbox"/> Equivocal RUBELLA EIA (IgM): <input type="checkbox"/> Positive <input type="checkbox"/> Negative <input type="checkbox"/> Equivocal	
MEDICAID NUMBER 123123112		TEST REQUESTED: Please indicate below. see back of form for test description. <input type="checkbox"/> Measles (Rubeola) IgM EIA <input type="checkbox"/> Rubella IgM EIA <input checked="" type="checkbox"/> Arbovirus <input type="checkbox"/> Rickettsial Panel <input type="checkbox"/> Other: CDC Referrals	
The following information MUST BE PROVIDED before testing can be performed: PERSON'S NAME AUTHORIZED TO RECEIVE PHONE RESULTS Joe Smith, R.N. FACILITY/LAB PHONE NO. 573-555-5555 FACILITY/LABORATORY NAME TestLab FACILITY/LABORATORY STREET/MAILING ADDRESS PO Box 999 FACILITY/LABORATORY CITY, STATE & ZIP CODE Anytown MO 65000		LAB USE ONLY MISSOURI DEPARTMENT OF HEALTH STATE PUBLIC HEALTH LABORATORY 307 W McCARTY PO BOX 570 JEFFERSON CITY MO 65101 EQAA EMPLOYER Services Provided on a non-Discriminatory Basis	